



# Naval Medical Research and Development

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## News Releases

### Physical Activity May Diminish Risk of Mood Disorders in Genetically Predisposed Individuals

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Recent research from Naval Health Research Center's (NHRC) Warfighter Performance Department found that physical activity may diminish the risk of major depressive disorder (MDD) and suicidal ideation (SI) in individuals with a genetic predisposition.

SAN DIEGO – Recent research from Naval Health Research Center's (NHRC) Warfighter Performance Department found that physical activity may diminish the risk of major depressive disorder (MDD) and suicidal ideation (SI) in individuals with a genetic predisposition. Study findings were published online in the January issue of Psychiatry Research.

The NHRC study, "A genetic risk factor for major depression and suicidal ideation is mitigated by physical activity," cited past research that identified MDD as the most common psychiatric disorder and SI as the strongest risk factor for attempted and completed suicide. Despite this, NHRC researchers stated little is known about their causes, particularly in vulnerable populations, such as service members who are exposed to chronic stress and combat.

Previous research has found that physical activity or exercise and genetic factors may influence behavioral health, but less is known about how they work together, according to

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study authors. In the current study, NHRC researchers sought to determine if physical activity can reduce the genetic risk for mood disorders.

Researchers evaluated over 700 active duty, volunteer participants. Data collection included DNA from saliva samples and self-report survey responses that assessed depression, perceived stress, and physical activity.

According to study authors, research findings demonstrate that some military members have a higher genetic risk of depression and suicidal thoughts, but engaging in physical activity at levels that meet national recommendations—30 minutes of moderate-intensity activity five days per week or 20 minutes of vigorous-intensity activity three days per week—may protect against some of these risks.

Additionally, researchers found:

- \* Individuals with the genetic risk factor were twice as likely to report MDD and SI than those Individuals with the genetic risk factor

- \* Individuals who did not meet physical activity guidelines were twice as likely to report MDD and SI than participants who met recommendations for physical activity

- \* Individuals who did not meet guidelines for physical activity and had the genetic risk factor for MDD and SI were more than twice as likely to develop mood disorders than participants who did not have the genetic risk factor and did meet the recommended physical activity
- Individuals who did not meet guidelines for physical activity and had the genetic risk factor for MDD and SI were more than twice as likely to develop mood disorders than participants who did not have the genetic risk factor and did meet the recommended physical activity

Study authors suggest lifestyle modifications that include getting the recommended amount and intensity of physical activity may effectively target mood disorders in genetically vulnerable individuals.

Future research directions may include evaluating the effectiveness of promoting physical activity in genetically vulnerable populations for improving overall health outcomes.

### ***The Warfighter Performance Department***

Marc Taylor leads the Biobehavioral Sciences Lab in the Warfighter Performance Department NHRC. The team investigates the associations between physical and psychological stressors and factors that can mitigate their negative impact on the warfighter. Their research expertise includes stress physiology, salivary bioscience, and human performance in extreme environments.

### ***The Publication***

<https://www.ncbi.nlm.nih.gov/pubmed/28142104>

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